

REMARKS

In response to the Appeal Brief filed June 2, 2003, prosecution is re-opened in the present application.

Claims 1, 2, and 4-20 are all the claims pending in the application.

Claims 1, 2, 4, 5, 8-10, and 18-20 are rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by previously-cited Kifuku et al. (US 5,740,040). Claims 6, 7, and 11-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. Applicant respectfully traverses the rejection with the following comments.

In the "Response to Arguments," the Examiner indicates that he is re-applying a previous rejection (Office Action dated January 29, 2002), because of a disclosure in the specification at page 6, lines 2-7, which states the following:

According to a third aspect of the present invention, there is provided an electric power steering system wherein the edge of the angular velocity of the steering system is extracted by extracting the edge of the motor angular velocity, motor back electromotive force or steering angular velocity so as to estimate the static friction of the steering system.

The Examiner asserts that this excerpt of the specification discloses that the steering force can be found using motor angular velocity. However, the excerpt indicates nothing about steering force. Rather, the excerpt describes extracting an edge of the angular velocity of the steering system.

Furthermore, the subject matter of the above-cited disclosure of the present specification is not claimed in the claims of the present application. Instead, claim 1 claims a means of computing an estimated value of static friction of the steering system based on the steering force of a driver. Moreover, the present specification does not indicate that extracting the edge of the angular velocity of the steering system by extracting the edge of the motor angular velocity,

motor back electromotive force or steering angular velocity so as to estimate the static friction of the steering system is equivalent to computing an estimated value of static friction of the steering system based on the steering force of a driver. Thus, the Examiner's assertion is without merit.

Also, FIG. 31, as well as the description at column 20, lines 34-39 of Kifuku et al., which represents static friction compensation in the reference, clearly shows a static-friction compensating current calculation means 20 for outputting the static friction compensating current target I_f . Kifuku discloses computation of the static friction compensating current target I_f based on a differentiated value of motor angular velocity ω and the vehicle speed, and do not teach or suggest a means for computing the static friction compensating current target I_f based on the steering force (steering torque V_t) of the driver as recited in claim 1 of the present invention.

Furthermore, in Kifuku the differentiated value of motor angular velocity ω is used for the static friction compensating current computation means 20. By contrast, in an exemplary embodiment of the present invention, the motor angular velocity is not concerned with the static friction compensation current computing means 10, i.e., the static friction compensation current computing means 10 is independent from the motor angular velocity computation means 2 and the motor angular acceleration computation means 3, and thus independent from the motor angular velocity itself as shown in FIG. 3 of the present invention.

The steering assist current calculation means 9 of Kifuku et al. (FIG. 2; col. 2, lines 12-20) calculates the steering assist current I_s based on the vehicle speed V_s and the steering torque V_t . This calculation means 9 corresponds to the steering force assist current computing means 7 of Applicant's exemplary embodiment shown in FIG. 3. The steering assist current calculation means 9 of Kifuku is different from the static friction compensating current calculation means 10

of Applicant's FIG. 3. The static friction computation means 9 of claim 1 of the present invention obtains an estimated value of the static friction of the steering system, based on a driver's steering force (steering torque, V_t). Thus, the static friction computation means 9 of claim 1 of the present invention is quite different from the steering force assist current computing means 7 of the present invention and Kifuku et al's steering assist current calculation means 9.

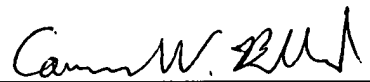
Therefore, claim 1 is believed to be allowable over the prior art for at least these reasons.

Also, claims 2, 4, 5, 8-10, and 18-20 are believed to be in form for allowance, at least because of their dependence from claim 1, which has been shown to be allowable.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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